

In re Patent Application of:
MORRISSETTE ET AL.
Serial No. 10/720,984
Filing Date: 11/24/03

In the Claims:

1. (CURRENTLY AMENDED) An ignition system for a vehicle comprising:
an ignition coil having primary and secondary windings for generating high voltage signals to spark plugs;
an electronic control module (ECM) that generates a signal;
a distributor having a reluctor assembly that generates a reluctor signal; and
an ignition module for receiving a signal from the electronic control module (ECM) and said reluctor assembly, said ignition module having a reluctor input, a bypass signal input, and electronic spark timing (EST) input, and including a microprocessor for generating a control signal to the ignition coil and switching ON and OFF the primary current therein and reducing the duty cycle as applied to the control signal from the ignition module to the ignition coil, wherein the ignition module is operative in a reluctor mode for outputting a control signal based on the reluctor signal received at the reluctor input and a bypass mode in which the control signal follows the electronic spark timing signal input.
2. (ORIGINAL) An ignition system according to Claim 1, and further comprising an armature and shaft assembly mounted within the distributor, wherein said ignition module is mounted on the distributor.

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3. (ORIGINAL) An ignition system according to Claim 1, wherein the microprocessor is operative for reducing the duty cycle from about 5% to about 15%.

4. (ORIGINAL) An ignition system according to Claim 1, and further comprising a temperature sensing circuit operative with the microprocessor for establishing a temperature control signal that is linear with temperature change in the ignition module.

5. (ORIGINAL) An ignition system according to Claim 1, wherein the microprocessor is operative for determining a timing interval for switching ON and OFF the primary current within the ignition coil.

6. (ORIGINAL) An ignition system according to Claim 1, wherein the microprocessor within the ignition module is operative for determining when an engine threshold has been exceeded by sensed processing engine operating parameters.

7. (ORIGINAL) An ignition system according to Claim 1, wherein the microprocessor within the ignition module is operative for reducing the duty cycle after the temperature threshold has been exceeded and when the engine RPM of the vehicle has dropped below a predetermined number.

8. (CURRENTLY AMENDED) An ignition system for a vehicle comprising:

an ignition coil having primary and secondary windings for generating high voltage signals to spark plugs;

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an electronic control module (ECM) that generates a signal;

a distributor having a reluctor assembly that generates a reluctor signal; and

an ignition module having a reluctor input, a bypass signal input, and an electronic spark timing (EST) input for receiving the signal from the electronic control module (ECM) including a bypass and electronic spark timing signal (EST) and the signal from said reluctor assembly, said ignition module including a microprocessor for generating a control signal to the ignition coil and switching ON and OFF the primary current therein and reducing the duty cycle as applied to the control signal from the ignition module to the ignition coil, wherein the ignition module is operative in a reluctor mode for outputting a control signal based on the reluctor signal received at the reluctor input and a bypass mode in which the control signal follows the electronic spark timing signal input.

9. (ORIGINAL) An ignition system according to Claim 8, and further comprising an armature and shaft assembly mounted within the distributor, wherein said ignition module is mounted on the distributor.

10. (ORIGINAL) An ignition system according to Claim 8, wherein the microprocessor is operative for reducing the duty cycle from about 5% to about 15%.

11. (ORIGINAL) An ignition system according to Claim 8, and further comprising a temperature sensing circuit operative

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with the microprocessor for establishing a temperature control signal that is linear with temperature change in the ignition module.

12. (ORIGINAL) An ignition system according to Claim 8, wherein the microprocessor is operative for determining a timing interval for switching ON and OFF the primary current within the ignition coil.

13. (ORIGINAL) An ignition system according to Claim 8, wherein the microprocessor within the ignition module is operative for determining when an engine threshold has been exceeded by sensed processing engine operating parameters.

14. (ORIGINAL) An ignition system according to Claim 8, wherein the microprocessor within the ignition module is operative for reducing the duty cycle after the temperature threshold has been exceeded and when the engine RPM of the vehicle has dropped below a predetermined number.

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